

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
6 May 2005 (06.05.2005)

PCT

(10) International Publication Number
WO 2005/040457 A2

(51) International Patent Classification⁷: C25B 1/36, 9/00

(21) International Application Number:
PCT/EP2004/011917

(22) International Filing Date: 21 October 2004 (21.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
MI2003A002040 21 October 2003 (21.10.2003) IT

(71) Applicant (for all designated States except US): DE
NORA ELETTRODI S.P.A. [IT/IT]; Via Dei Canzi, 1,
I-20134 Milano (IT).

(72) Inventors; and

(75) Inventors/Applicants (for US only): OLDANI, Dario
[IT/IT]; Via Paolo Sarpi, 44, I-20154 Milano (IT). FRAN-
CIS, David [US/US]; 1605 Taggart Drive, Belle Mead,
NJ 08502 (US). PERAGINE, Salvatore [IT/IT]; Via
Sacchetti, F35, I-20099 Sesto San Giovanni (IT).

(74) Agent: REITSTÖTTER, KINZEBACH & PARTNER
(GBR); Sternwartstrasse 4, 81679 München (DE).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

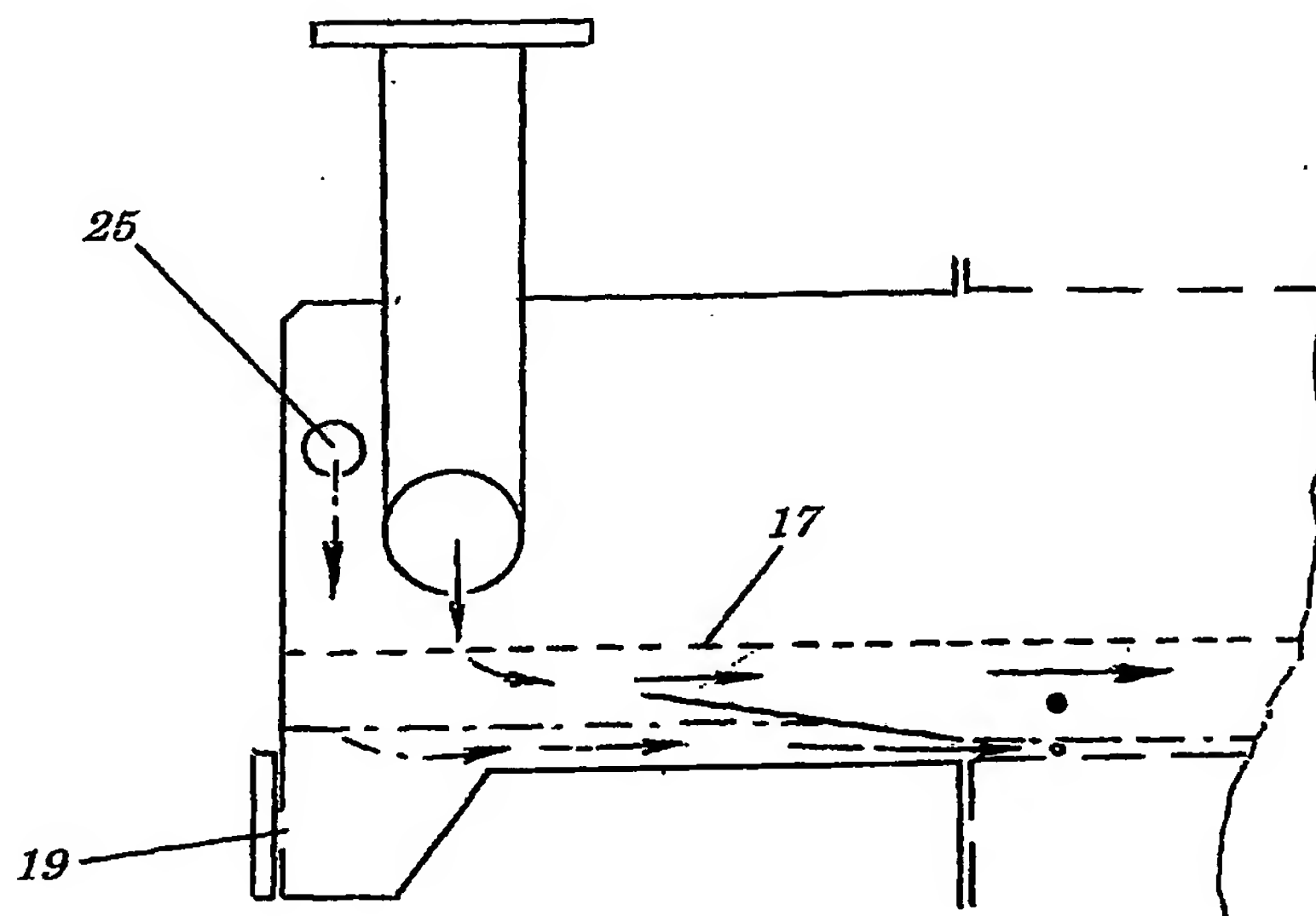
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished
upon receipt of that report

[Continued on next page]

(54) Title: COOLING DEVICE FOR END-BOX OF MERCURY CATHODE CHLOR-ALKALI CELLS



(57) Abstract: The invention describes heat exchange devices for dry-type inlet end-boxes of mercury cathode chlor-alkali electrolysis cells. The devices increase the heat exchange between recycled mercury and feed brine with the purpose of reducing the temperature of mercury to a substantial extent. The devices consist of a first element directed to subdivide the mercury flow into a fine and a stable dispersion of rivulets and droplets and of a second element capable of increasing the brine level to allow the prolonged contact thereof with mercury. The decrease of mercury temperature below the critical value of 90-95 °C determines an advantageous duration improvement of the end-box internal lining.

WO 2005/040457 A2



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.